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AUG 21 1967

CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,

and

DEPARTMENT of CONSERVATION STATE of WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
MAY 1, 1967

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83701
Montana	P. O. Box 855, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4001 Federal Building, Salt Lake City, Utah 84111
Washington	840 Bon Marche Bldg., Spokane, Washington 99206
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



FEDERAL-STATE-COOPERATIVE
SNOW SURVEY AND WATER SUPPLY FORECASTS

For
WASHINGTON

Report Prepared
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State of Washington

WATER SUPPLY OUTLOOK

State of Washington

May 1, 1967

* The water supply outlook for irrigation and power in the State of *
* Washington and tributary watersheds has improved considerably *
* over that which was reported last month. Streamflow was well be- *
* low normal on all the major streams in the State. Temperatures *
* were below normal and precipitation varied within the several *
* watersheds. All this leads to the improvement of the water supply. *
* Most years the snowpack is depleted throughout the State except *
* for a few high elevation snow courses. This year snow courses *
* at elevations above 3500' to 4000' increased not only percentage- *
* wise but many had measurements over those reported last month. *

SNOW COVER

A snow cover comparison chart and map are generally not prepared for May 1 because of the many low elevation snow courses that have zero readings as of this date. This leads to inequalities when comparing this month's record with last month's. Indications of snow cover for some of the watersheds are as follow: Yakima, 67% above last year or 8% above normal; the Spokane, 50% greater than last year and 16% greater than normal; the Methow, showing the greatest increase, with 118% over last year. These high percentage figures extend over the entire State.

RESERVOIRS

With the exception of Ross Reservoir in the Skagit River Basin all reservoirs have considerably less water in storage on May 1 than average for this time of year. The power reservoirs, (for example, F. D. Roosevelt Lake and Lake Chelan) have considerably less water in storage but these reservoirs have all been lowered for flood control purposes. With the expected runoff all reservoirs should fill and most will spill during the runoff period.

PRECIPITATION

During April, precipitation was below normal in the upper portion of the Columbia Basin in Canada and in the Pend Oreille-Spokane drainage. The west slopes of the Cascades also had below normal rainfall during the Month. Throughout the central portion of the State, including the northeastern corner, precipitation ranged from 20% to 44% above normal.



SOIL MOISTURE

None of the soil moisture stations indicate snow mantles that are wetted to capacities although some are reasonably close. In Lincoln County the soil mantle is wetter than last year at this time and similar to what happened in 1965. The Okanogan drainage stations indicate drier conditions over those reported both last year and the year before. In the Yakima drainage the stations are similar to last year. Those in the Blue Mountains are the wettest and indicate near capacity soil mantles and considerably greater than the previous two years.

STREAMFLOW

During the month of April the flows of the several rivers in the State were only half of what normally can be expected, ranging from a high of 16% below normal to a low of 72% below. Low flows during April, generally above normal precipitation and well above normal snow water equivalents result in forecasted flows for the May-September period well above normal and well above that which was reported last month. Forecasts now range from 15% below normal for Ahtanum Creek as measured near Tampico to a high of 26% above for the Columbia River as measured at Birchbank. Numerical forecasts for the May-September, May-July and May-June periods, along with the percent figures, can be found elsewhere in this report.



STREAMFLOW FORECAST - MAY 1967

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts.

Basin, Stream and Station	Forecast Runoff 1967	Seasonal Streamflow in Thousands of Acre-Feet					
		%	Fore-	Measured Runoff			15 Yr.
		15-Yr. Avg.	cast Period	1966	1965	1964	Average
<u>COLUMBIA BASIN</u>							
<u>Columbia River System</u>							
<u>Columbia River</u>							
at Birchbank <u>1/</u>	53400	126	May-Sep	42575	40418	44481	42518
	41600	126	May-Jul	32820	30110	34176	33007
	28300	126	May-Jun	21876	20365	21436	22472
<u>Columbia River</u>							
at Grand Coulee <u>1/</u>	79200	125	May-Sep	55829	61301	65433	63335
	65000	125	May-Jul	45027	48555	53474	52003
	48200	125	May-Jun	32163	36140	37813	38569
<u>Columbia River</u>							
bl. Rock Island Dam <u>1/</u>	86500	124	May-Sep	60694	65579	73563	69730
	71200	124	May-Jul	49296	52352	59907	57384
	52800	124	May-Jun	35478	38637	42067	42595
<u>Columbia River</u>							
at The Dalles, Ore. <u>1/</u>	114000	120	May-Sep	75010	96282	99591	94841
	94400	120	May-Jul	60348	78392	82718	78671
	72500	120	May-Jun	44552	60321	61314	60426
<u>Pend Oreille River System</u>							
<u>Pend Oreille River</u>							
bl. Box Canyon	18000	124	May-Sep		16381	16702	14549
	16400	124	May-Jul		12165	15035	13215
	13700	124	May-Jun		14466	12446	11043
<u>Kettle River System</u>							
<u>Kettle River</u>							
nr. Laurier	2000	115	May-Sep		1464	1872	1754
	1900	115	May-Jul		1371	1646	1654
	1700	115	May-Jun		1269	1431	1477

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.



Streamflow Forecasts - May 1967 (Cont.)

Basin, Stream and Station	Forecast Runoff 1967	Seasonal Streamflow in Thousands of Acre-Feet					
		%	Fore-	Measured Runoff			15-Yr.
		15-yr. Avg.	cast Period	1966	1965	1964	Average 1948-62
<u>Kettle River System (Cont.)</u>							
Colville River							
at Kettle Falls	107	90	May-Sep		93	62	119
	94	90	May-Jul		81	53	104
	81	89	May-Jun		73	47	91
<u>Spokane River System*</u>							
Spokane River							
at Post Falls, Idaho <u>2/</u>	2600	115	May-Sep		1924	2986	2262
	2500	116	May-Jul		1789	2826	2160
	2300	115	May-Jun		1646	2616	2002
<u>Okanogan River System**</u>							
Similkameen River							
nr. Nighthawk	1610	103	May-Sep		1263	1794	1556
	1500	104	May-Jul		1167	1637	1441
	1280	105	May-Jun		1021	1262	1222
Okanogan River							
at Oroville <u>3/</u>	500	117	May-Sep		355	358	430
	490	114	May-Jul		349	314	428
	470	115	May-Jun		347	284	407
Okanogan River							
nr. Tonasket	1900	105	May-Sep		1467	1948	1804
	1700	105	May-Jul		1327	1713	1618
	1425	106	May-Jun		1153	1310	1350
<u>Methow River System**</u>							
Methow River							
nr. Pateros	1190	111	May-Sep	582	744	889	1069
	1100	111	May-Jul	531	668	823	987
	935	113	May-Jun	436	566	669	831

* Forecasts made by Morlan W. Nelson and J. Alden Wilson, Soil Conservation Service, Boise, Idaho.

** These forecasts are based in part upon base flow data especially prepared and furnished for this purpose by the U. S. Geological Survey.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage and diversions.

4/ Observed flow corrected for storage in Lake Chelan.

Streamflow Forecasts - May 1967 (Cont.)

Basin, Stream and Station	Forecast Runoff 1967	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast Period	1966	1965	1964	15-Yr. Average 1948-62
<u>Chelan River System</u>							
Chelan River							
at Chelan <u>4/</u>	1420	116	May-Sep		1010	1210	1221
	1250	117	May-Jul		872	1058	1070
	960	118	May-Jun		652	738	814
Stehekin River							
at Stehekin	1020	118	May-Sep		737	889	861
	860	118	May-Jul		613	756	728
	640	120	May-Jun		448	519	535
<u>Wenatchee River System</u>							
Wenatchee River							
at Plain	1370	111	May-Sep	913	1110	1364	1238
	1230	111	May-Jul	822	991	1191	1108
	965	113	May-Jun	638	778	820	854
Wenatchee River							
at Peshastin	1870	110	May-Sep	1250	1475	1812	1700
	1700	111	May-Jul	1136	1333	1597	1535
	1350	113	May-Jun	888	1056	1114	1191
Stemilt Basin							
nr. Wenatchee	125*		May-Sep		132*	146*	--
<u>Yakima River System</u>							
Yakima River							
nr. Martin <u>5/</u>	134	103	May-Sep	94	95	185	130
	124	105	May-Jul	90	88	163	118
	104	106	May-Jun	77	77	119	98
Yakima River							
at Cle Elum <u>6/</u>	890	104	May-Sep		678	1113	857
	810	105	May-Jul		608	986	772
	680	105	May-Jun		513	748	645
Yakima River							
nr. Parker <u>7/</u>	1580	103	May-Sep		1080	1748	1533
	1570	104	May-Jul		1070	1660	1505
	1400	104	May-Jun		997	1349	1343
Kachess River							
nr. Easton <u>8/</u>	121	107	May-Sep	79	81	155	113
	115	108	May-Jul	77	76	140	106
	99	109	May-Jun	69	68	106	91

* Thousands of Miners' Inches.

5/ Observed flow corrected for storage in Lake Keechelus.6/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.7/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.8/ Observed flow corrected for storage in Lake Kachess.

Streamflow Forecasts - May 1967 (Cont.)

Basin, Stream and Station	Forecast Runoff 1967	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore-c cast Period	Measured Runoff			15-Yr. Average
				1966	1965	1964	1948-62
<u>Yakima River System (Cont)</u>							
Cle Elum River							
nr. Roslyn <u>9/</u>	470	105	May-Sep	334	349	529	449
	430	106	May-Jul	311	319	472	407
	350	105	May-Jun	255	267	353	332
Bumping River							
nr. Nile <u>10/</u>	145	100	May-Sep	104	111	159	145
	133	101	May-Jul	96	102	142	132
	109	103	May-Jun	81	87	101	106
American River							
nr. Nile	121	99	May-Sep		95	123	122
	111	99	May-Jul		87	111	112
	89	99	May-Jun		74	82	90
Tieton River							
at Tieton Dam <u>11/</u>	250	103	May-Sep	168	184	217	242
	210	104	May-Jul	144	153	183	202
	165	106	May-Jun	114	123	127	155
Naches River							
nr. Naches <u>12/</u>	860	105	May-Sep		664	829	823
	780	105	May-Jul		591	734	740
	650	107	May-Jun		496	558	608
Ahtanum Creeks							
nr. Tampico <u>13/</u>	38	85	May-Sep		33	31	45
	35	88	May-Jul		29	27	40
	30	88	May-Jun		25	22	34
<u>Lower Columbia River System</u>							
Mill Creek							
nr. Walla Walla	25	114	May-Sep		16	22	22
	20	111	May-Jul		12	18	18
	17	113	May-Jun		10	16	15
Lewis River							
at Ariel <u>14/</u>	1220	118	May-Sep		688	1141	1030
	1020	118	May-Jul		571	924	866
	860	119	May-Jun		485	743	720
Cowlitz River							
at Castle Rock <u>15/</u>	2500	112	May-Sep		1593	2736	2236
	2170	114	May-Jul		1320	2290	1902
	1720	113	May-Jun		1069	1745	1526

9/ Observed flow corrected for storage in Lake Cle Elum.

10/ Observed flow corrected for storage in Bumping Lake.

11/ Observed flow corrected for storage in Rimrock Lake.

12/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

13/ Observed flow of North and South Forks (combined).

14/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

15/ Observed flow corrected for storage in Mayfield Reservoir.



Streamflow Forecasts - May 1967 (Cont.)

		Seasonal Streamflow in Thousands of Acre-Feet					
Basin, Stream and Station	Forecast Runoff 1966	% 15-Yr. Avg.	Fore- cast Period	Measured Runoff			15-Yr. Average
				1966	1965	1964	1948-62

OLYMPIC PENINSULA

Dungeness River System

Dungeness River	168	106	May-Sep	110	144	158
nr. Sequim	136	107	May-Jul	88	116	127
	97	107	May-Jun	65	79	91



RESERVOIR STORAGE - 1000 Acre Feet

BASIN or STREAM	RESERVOIR	USABLE ^{1/} CAPACITY	1967	Measured (May 1)		Normal*
				1966	1965	
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	172.0	172.8	524.3	347.7
Columbia	Franklin D. Roosevelt Lake	5232.0	899.1	2786.0	3252.0	3088.2
Columbia	Banks Lake ^{2/}	761.8	446.8	401.6	247.4	450.0
Okanogan	Conconully Reservoir	13.0	4.7	1.2	6.1	9.1
Okanogan	Salmon Lake	10.5	3.7	7.6	8.1	9.2
Chelan	Lake Chelan	676.1	42.1	137.6	369.3	239.3
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	109.7	127.8	122.2	111.3
Kachess	Kachess Lake	239.0	181.5	176.9	215.7	200.5
Cle Elum	Lake Cle Elum	436.9	280.3	283.0	387.3	328.4
Bumping	Bumping Lake	33.7	4.7	8.3	17.6	21.0
Tieton	Rimrock Lake	198.0	139.1	119.6	182.3	149.9
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir ^{2/}	1202.9	732.6	571.2	839.1	511.2
Skagit	Diablo Reservoir	90.6	83.2	85.8	85.1	85.2
Skagit	Gorge Reservoir	9.8	8.2	8.2	7.8	--

^{1/} Based on Active Storage

^{2/} Less than 15-year record in period 1948-62

* 15-year average 1948-62

SOIL MOISTURE - MAY

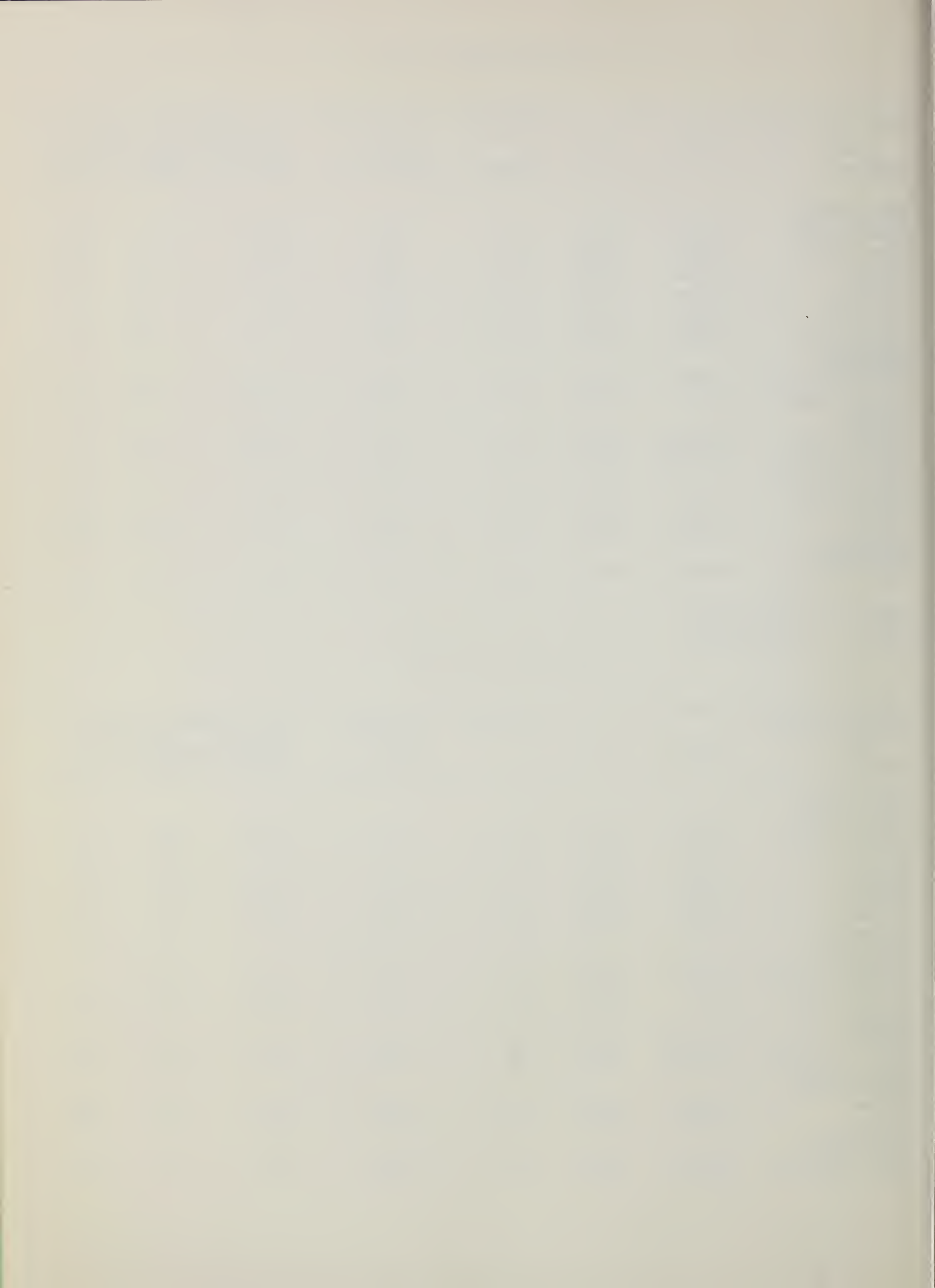
Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches):	Soil Moisture Content		
				Total : Capacity:	(Inches) 1967	as of May 1 1966	1965
<u>CRAB CREEK</u>							
Creston-Kunz	18B1m	2440	48	13.6	10.8	10.6	10.5
Jack Woods	18B3M	2600	48	13.6	9.6	9.4	9.4
Krause	18B4m	2440	48	13.6	9.1	8.9	9.1
Sheffels	18B5m	2360	48	13.6	8.1	7.6	8.7
Sherman	18B7m	2440	48	13.6	8.1	7.4*	--
Wheatridge	18B6m	2200	48	13.6	9.2	7.4	8.4
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	3.7	4.1	--
Trout Creek	3-M	3600	48	7.3	3.2**	6.2	6.3
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	4.9*	4.9	--
Lake Cle Elum	21B14M	2200	48	12.8	9.1*	9.2	9.1
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	10.5	7.5	9.6
Helmers	17C2M	4400	48	12.0	11.3	10.8	11.0
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	11.8	11.6	--

*April 15 measurement

**April 1 measurement

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile	(Inches): Total : Capacity:	Soil Moisture Content (Inches) as of Oct. 1 1966 1965 1964		
<u>CRAB CREEK</u>							
Creston-Kunz	18B1m	2440	48	13.6	5.0	4.9	5.4
Jack Woods	18B3m	2600	48	13.6	4.3	5.0	4.4
Krause	18B4m	2440	48	13.6	5.1	5.8	5.9
Sheffels	18B5m	2360	48	13.6	3.8	4.0	3.7
Sherman	18B7m	2440	48	13.6	3.7	--	--
Wheatridge	18B6m	2200	48	13.6	4.1	4.2	4.1
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	3.0	1.9	--
Trout Creek	3-M	3600	48	7.3	3.8	4.1	4.9
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	2.4	1.9	4.4
Lake Cle Elum	21B14M	2200	48	12.8	6.4	6.9	8.5
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	5.7	6.0	5.6
Helmers	17C2M	4400	48	12.0	6.7	6.2	6.0
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	5.7	6.2	5.3



PRECIPITATION ^{1/}

Division Averages and Departures

DRAINAGE DIVISIONS	FALL		WINTER		SPRING	
	<u>Sept-Nov. 1966 ^{2/}</u>		<u>Dec. '66-Feb. '67 ^{2/}</u>		<u>Mar-April '67 ^{2/}</u>	
	Observed	Departure	Observed	Departure	Observed	Departure
Columbia in Canada	6.80	+0.53	9.73	+0.94	3.10	+0.12
Pend Oreille - Spokane	7.75	-1.19	12.63	+0.44	4.75	-0.26
Northeastern Washington	5.29	-0.02	7.10	-0.18	3.80	+0.81
Southeastern Washington	5.33	-0.54	7.59	-0.40	4.42	+0.50
Central Washington	8.93	-2.94	18.43	-0.27	6.12	+0.49
North Central Washington	3.55	+0.52	4.08	+2.27	1.63	-0.14
Northwest Slope Cascades	20.24	-3.80	42.10	+8.65	13.42	-0.17
Southwest Slope Cascades	15.38	-2.71	29.55	+3.42	10.22	-0.38

Northeastern Washington - Lower Spokane, Colville, Sanpoil and lower Kettle drainages

Southeastern Washington - Touchet, Tucannon and Palouse drainages.

Central Washington - Yakima, Wenatchee and Chelan drainages.

North Central Washington - Methow and Okanogan drainages.

Northwest Slope Cascades - Puget Sound drainages.

Southwest Slope Cascades - Lower Columbia drainages.

^{1/} - Preliminary analysis by U. S. Weather Bureau from data furnished by Meteorological Services of Canada and U. S. Weather Bureau

^{2/} - Departure from 15-year (1948-62) drainage division average

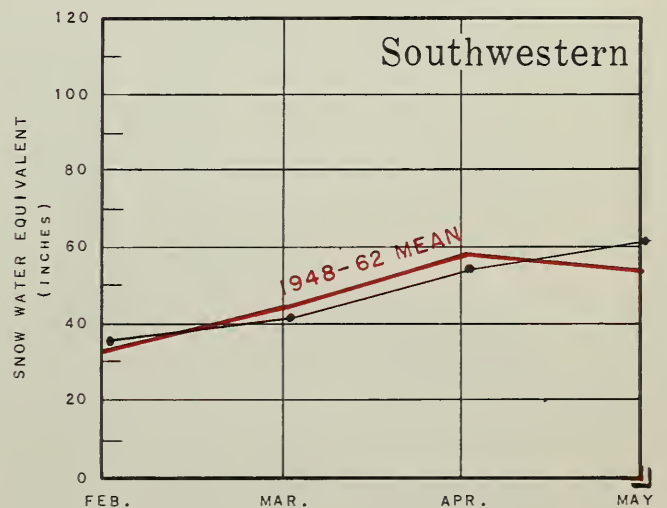
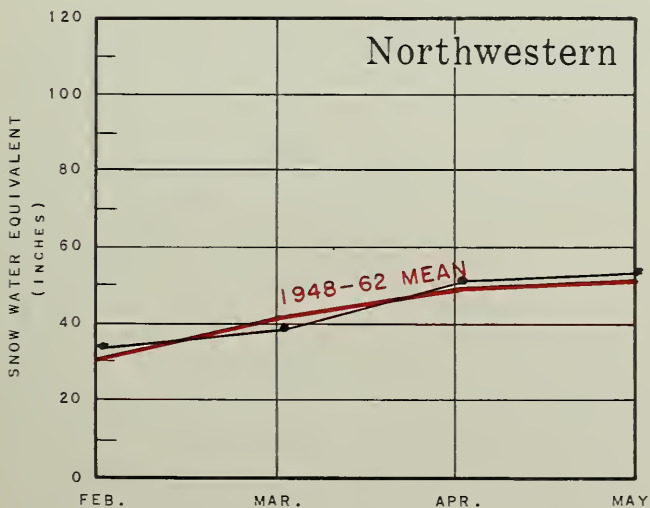
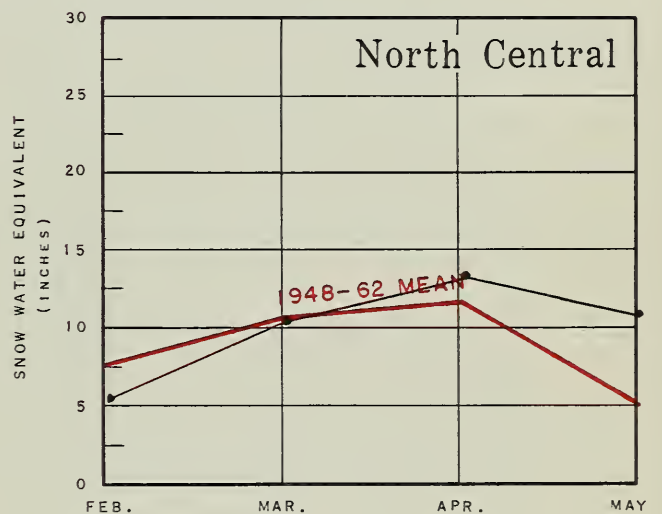
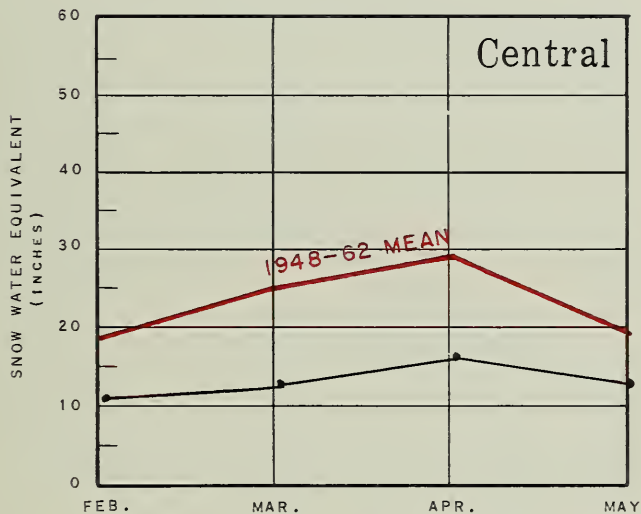
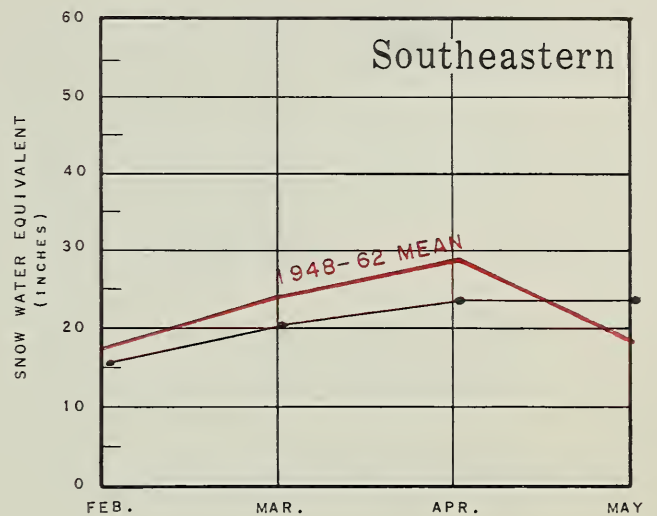
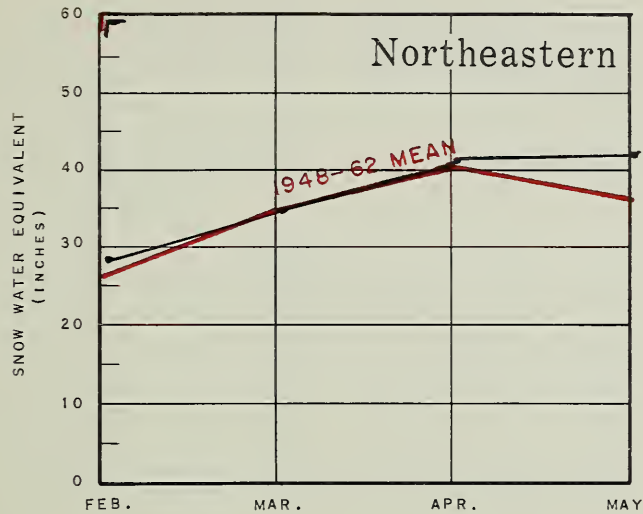
Note - Precipitation shown in inches



WASHINGTON SNOW COVER

1967

DRAINAGE AREAS

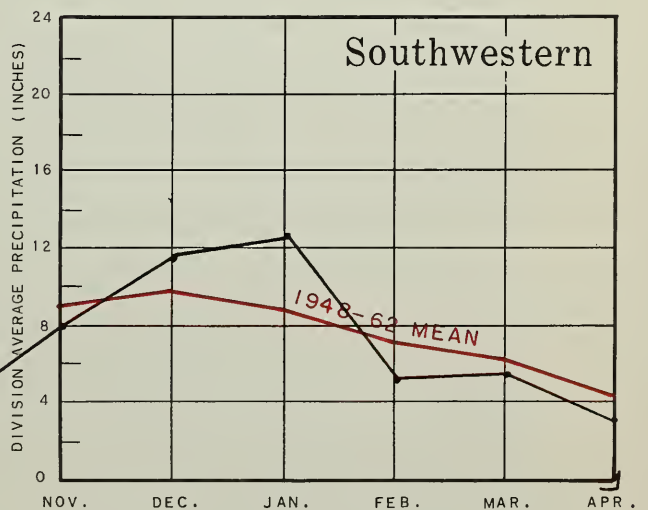
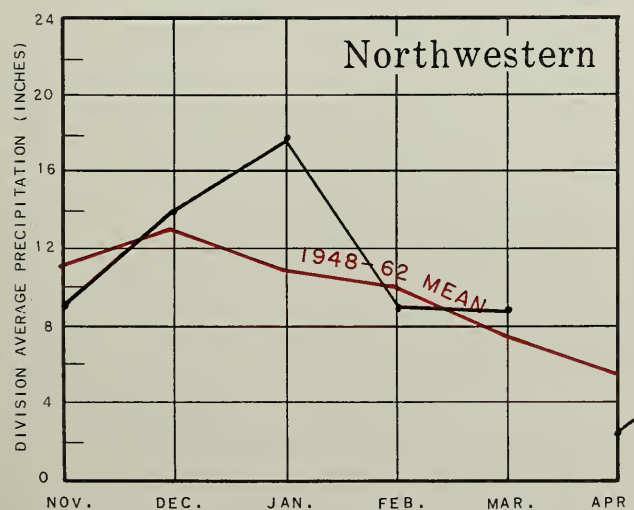
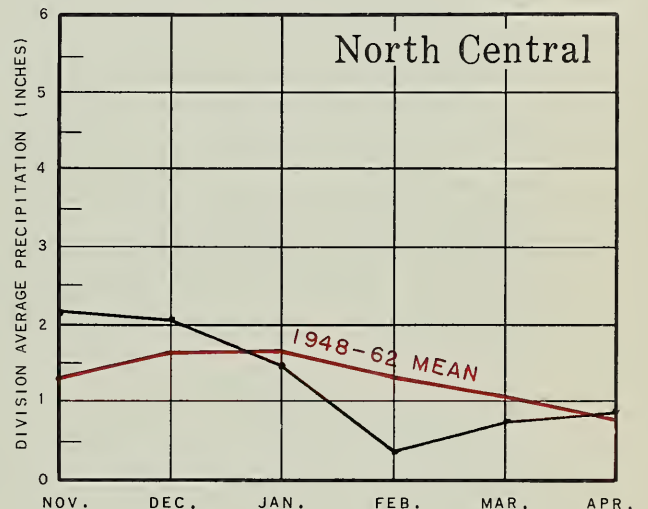
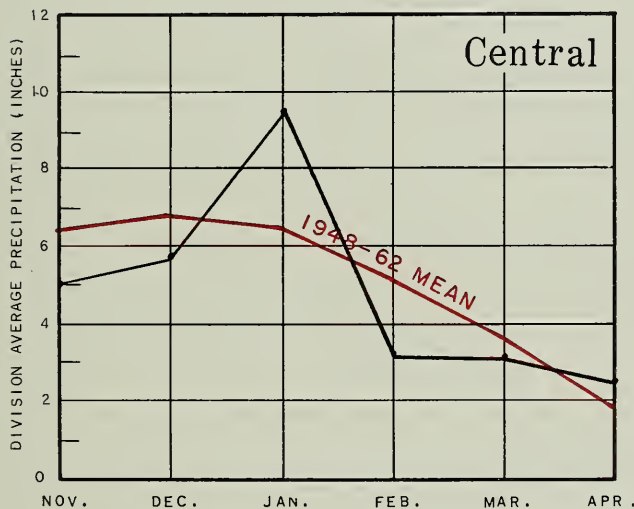
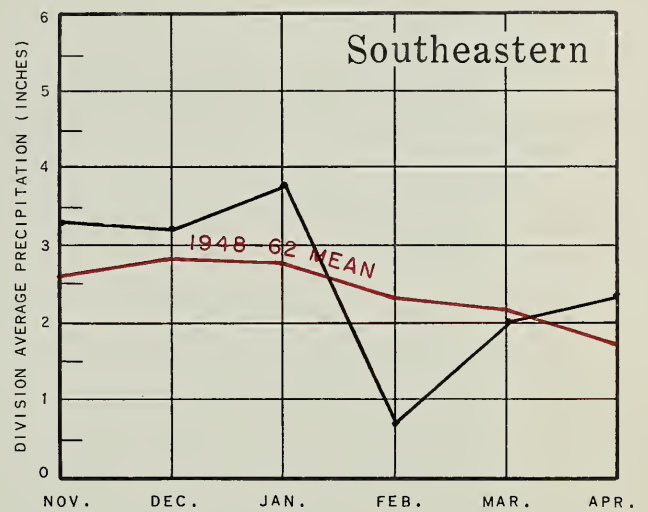
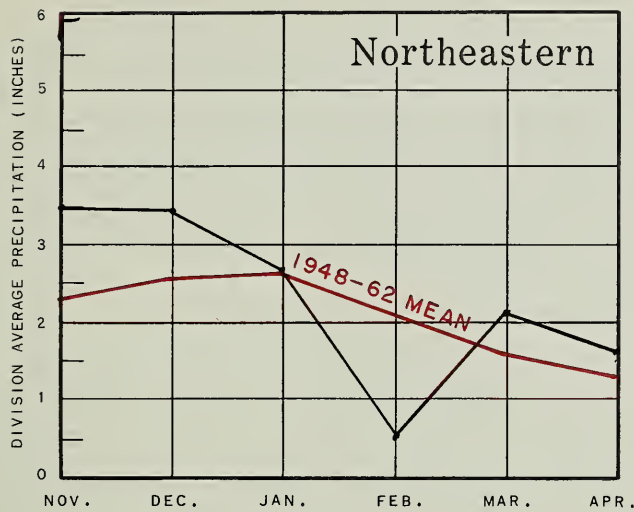




WASHINGTON VALLEY PRECIPITATION

1966 - 1967

DRAINAGE AREAS

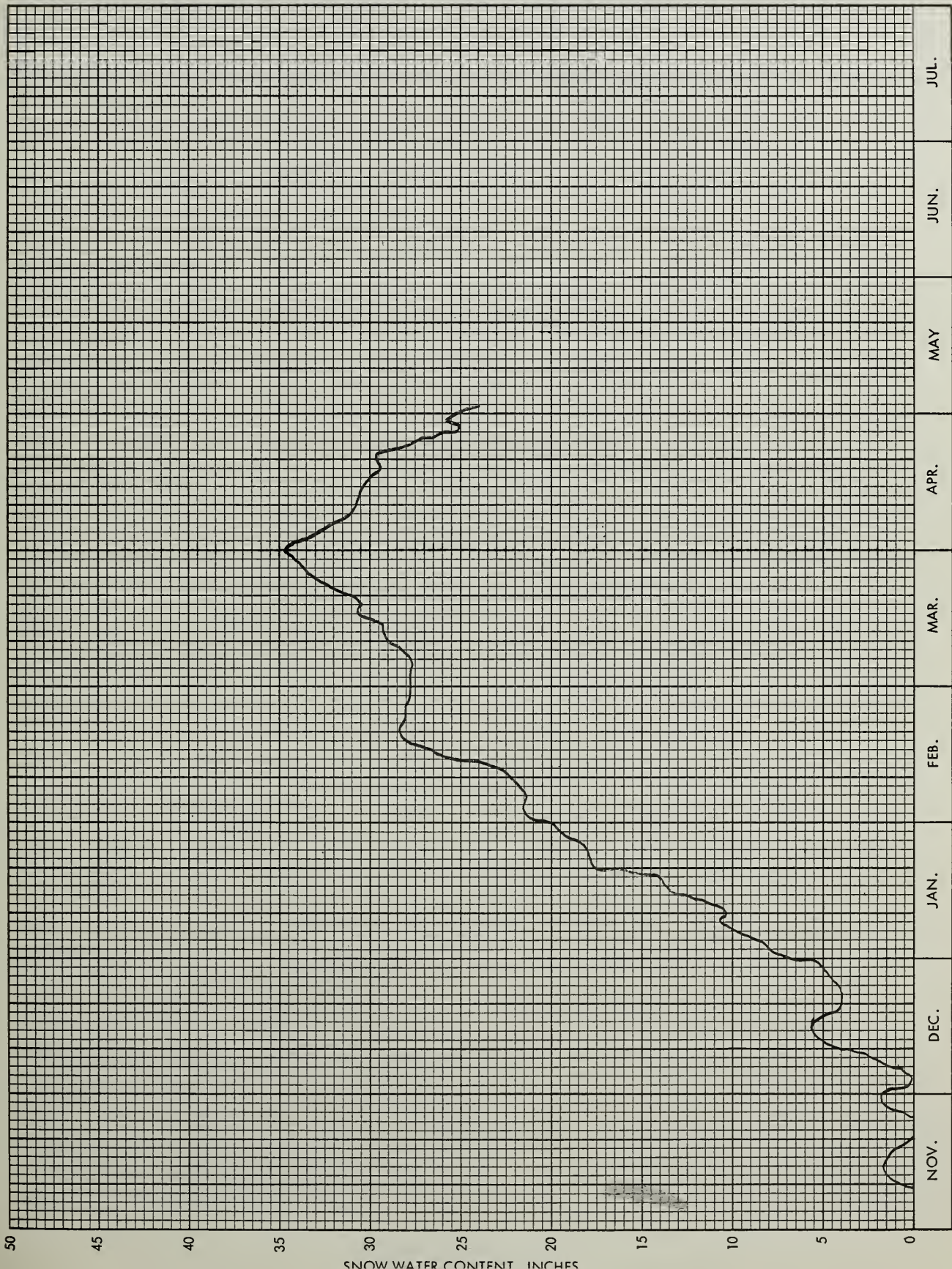




SNOW PILLOW DATA

EBA Pillow - Snoqualmie Pass

Sec. 4 T. 22N R. 11E No. 21B33SP Drainage: Yakima
 Lat. 47° 25' Long. 121° 25' Elev. 3020'



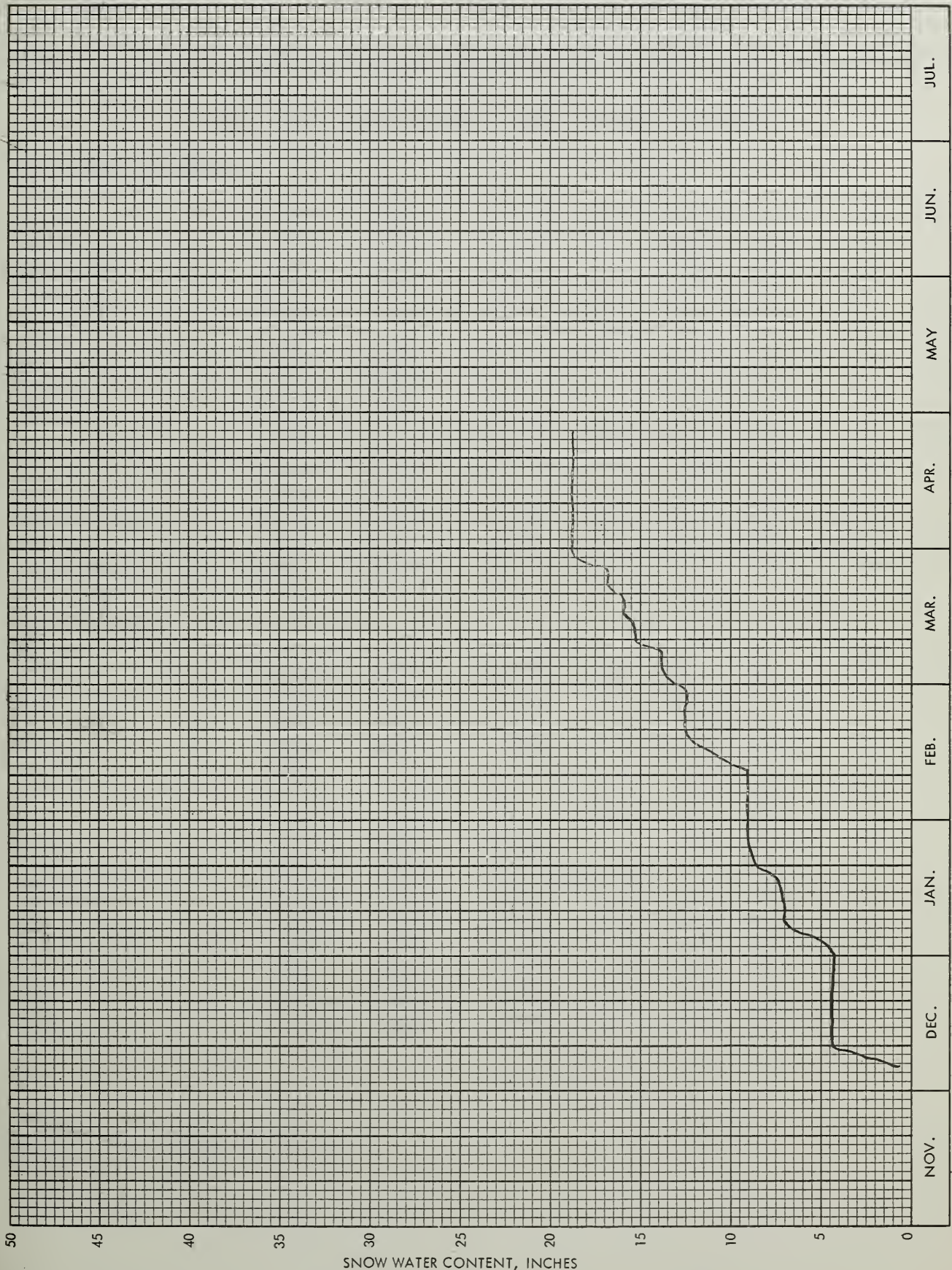


SNOW PILLOW DATA

Gongar Mountain - FS

Sec. 28 T. 21N R. 9E No. 21B42SP Drainage: Green River

Lat. _____ Long. _____ Elev. 3200





APPENDIX 1

SNOW DATA APRIL 1 to MAY 1, 1967

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENT				
				1967	:P a s t R e c o r d			
				Snow Depth (In.)	Water : Content: (In.)	Water : Content: (In.)	1948-62 Avg.	

U P P E R C O L U M B I A D R A I N A G EPEND OREILLE RIVER

Baree Creek	15B11	5500	5/1	149	62.6	39.4	45.2	49.1
Baree Midway	15B16	4600	5/1	116	49.9	24.8	--	--
Benton Meadow	16A2	2344	4/28	0	0.0	0.0	0.0	0.0*
Benton Spring	16A3	4900	4/28	59	22.9	12.0	11.0	18.2
Boyer Mountain	17A2	5250	4/27	72	27.4	19.4	30.4	24.1*
Brush Creek	14A4	5000	4/26	38	15.0	7.2	10.2	10.7*
Bunchgrass Meadow	17A1	5000	4/27	100	43.4	23.8	30.1	28.6
Hoodo Creek	15C1	6200	5/1	136	57.6	41.2	56.6	50.2*
Lookout	15B2	5250	4/17	104	41.9	31.5	39.7	--
			5/1	106	42.4	30.0	36.6	36.4
Nelson	Canada	3050	5/1	29	9.0	8.3	6.0	5.7**
Schweitzer Bowl	16A6	4500	4/28	92	37.5	22.2	19.7	--
Schweitzer Ridge	16A5	6100	4/28	150	61.0	47.0	47.5	--
Smith Creek	16A1	4800	4/25	137	61.9	43.1	44.2	47.5*
Winchester Creek	17A3	2970	4/27	0	0.0	0.0	2.4	--

KETTLE RIVER

Barnes Creek	Canada	5300	4/27	62	26.4	21.9	18.9	20.2**
Big White Mtn.	Canada	5500	4/27	70	27.2	16.0	--	--
Boulder Road	18A2	1450	4/25	0	0.0	0.0	--	--
Butte Creek	18A3	4070	4/25	22	8.1	3.4	7.1	--
Cabin Creek	18A8	3170	4/25	8	2.7	0.0	0.0	--
Carmi	Canada	4100	5/1	14	5.0	0.0	0.0	--
Farron	Canada	4000	5/1	34	13.3	6.7	7.1	--
Goat Creek	18A4	3595	4/25	0	0.0	0.0	0.0	--
Lower Trapping Cr.	Canada	3050	Not Measured			0.0	--	--
Monashee Pass	Canada	4500	4/27	40	17.1	13.5	12.0	12.9**
Old Glory Mtn.	Canada	7000	4/30	110	46.3	29.7	28.4	28.0**
Snow Caps Creek	18A5	2150	4/25	0	0.0	0.0	0.0	--
Snow Caps Trail	18A6	2720	4/25	0	0.0	0.0	0.0	--
Summit G. S.	18A7	4600	4/25	27	9.0	2.5	7.2	--
Upper Trapping Cr.	Canada	5500	4/27	24	9.8	2.7	--	--

* Adjusted 1948-62 average

** Average for years of record



APPENDIX 2

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENT				
				1967	: P a s t R e c o r d			
				Snow Depth (In.)	Water Content: (In.)	Water Content (In.)	1948-62 Avg.	
					:1966	1965		
<u>SPOKANE RIVER</u>								
Copper Ridge	16B2	4800	5/1	76	34.0	18.7	27.6	29.3
Forty-nine Meadows	15B3	5000	5/3	75	32.4	22.8	20.2	32.3
Fourth of July Summit	16B3	3100	5/1	0	0.0	0.0	0.0	--
Granite Peak	15B13A	6000	5/3	139	55.4	45.0	--	--
#Lookout	15B2	5250	4/17	104	41.9	31.5	39.7	--
			5/1	106	42.4	30.0	36.6	36.4
Lost Lake	15B14A	6000	5/3	156	65.8	49.8	70.9	--
Lower Sands Creek	16B1	3400	5/1	39	16.6	13.4	16.6	14.2*
Medicine Ridge	15B4A	6150	5/3	143	57.4	41.8	--	--
Outlaw Creek	15B12A	3750	5/3	34	13.2	8.2	--	--
<u>OKANOGAN RIVER</u>								
Aberdeen Lake	Canada	4300	4/28	14	4.8	0.7	0.0	1.3**
Blackwall Mountain	Canada	6250	4/27	101	44.4	34.0	33.9	35.8**
Bouleau Creek	Canada	5000	4/30	34	11.6	6.8	8.7	7.2**
Brookmere	Canada	3200	4/30	25	9.0	3.2	2.4	5.2**
Clark +	19A8a	7000	5/1	90	32.4	16.8	--	--
Enderby	Canada	6250	4/26	126	51.0	39.8	41.8	--
#Freezeout Meadows	20A2	5000	4/24	87	35.9	29.2	33.2	33.7*
Hamilton Hill	Canada	4900	4/30	53	20.0	7.1	9.3	9.9**
#Harts Pass	20A5A	6500	4/24	139	56.5	39.5	47.5	51.6
Isintok Lake	Canada	5510	4/26	34	10.7	3.2	4.8	--
Lost Horse Mountain	Canada	6300	5/1	44	13.5	4.2	10.6	8.8**
Lower Esperon Creek	Canada	4270	Not Measured		6.2	--	--	--
McCulloch	Canada	4200	4/27	14	5.3	0.9	2.8	2.9
Middle Esperon Creek	Canada	4580	Not Measured		6.8	--	--	--
Missezula Mountain	Canada	5100	4/27	33	10.1	0.0	8.5	4.3**
Mission Creek	Canada	6000	4/28	70	26.1	18.9	21.1	21.1**
Monashee Pass	Canada	4500	4/27	40	17.1	13.5	12.0	12.9**
Mount Kobau	Canada	5950	5/1	58	20.0	8.5	--	--
Muckamuck +	19A9a	6390	5/1	63	22.7	10.4	--	--
Mutton Creek No. 1	19A1	5700	4/26	58	20.0	2.4	8.5	9.9
Mutton Creek No. 2	19A4	6000	4/26	66	23.2	10.3	14.6	15.3
New Copper Mountain	Canada	4300	Not Measured		--	--	--	--
New Penticton Res.	Canada	5300	Not Measured		--	--	--	--

Not located directly on this basin

* Adjusted 1948-62 average

** Average for years of record

APPENDIX 3

			SNOW COVER MEASUREMENT					
			1967	: P a s t R e c o r d				
DRAINAGE BASIN			Date	Snow	Water	Water Content (In.)		
and			of	Depth	Content:	1948-62		
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	: 1966	1965	Avg.
<u>OKANOGAN RIVER (Cont.)</u>								
Nickel Plate Mountain	Canada	6200	5/2	32	12.4	4.9	8.1	7.3**
Postill Lake	Canada	4500	4/28	27	8.6	6.1	4.1	6.4**
#Quartette Lake	Canada	4000	Not Measured			--	--	--
Rusty Creek	19A3	4000	4/26	8	2.8	0.0	0.0	1.5*
Salmon Meadows	19A2	4500	4/26	30	11.2	0.0	3.8	5.1
Silver Star Mountain	Canada	6050	4/27	88	38.8	26.4	22.0	24.0**
Starvation Mountain +	19A10a	6750	5/1	93	33.5	19.2	--	--
Summerland Reservoir	Canada	4200	4/29	26	10.3	3.9	--	--
Trout Creek	Canada	4700	5/1	24	7.3	2.7	3.7	4.7**
Upper Esperon Creek	Canada	5290	Not Measured			15.6	--	--
Carrs Landing # 1	Canada	2250	Not Measured			New Course		
Carrs Landing # 2	Canada	3200	Not Measured			New Course		
White Rocks Mountain	Canada	6000	Not Measured			--	--	--
<u>METHOW RIVER</u>								
Harts Pass	20A5A	6500	4/24	139	56.5	39.5	47.5	51.6
#Mutton Creek No. 1	19A1	5700	4/26	58	20.0	2.4	8.5	9.9
#Mutton Creek No. 2	19A4	6000	4/26	66	23.2	10.3	14.6	15.3
#Rusty Creek	19A3	4000	4/26	8	2.8	0.0	0.0	1.5*
#Salmon Meadows	19A2	4500	4/26	30	11.2	0.0	3.8	5.1
<u>CHELAN LAKE BASIN</u>								
Cloudy Pass +	20A22a	6500	4/30	170++	68.8++	--	--	--
Greenwood Flat +	20A25a	3540	4/30	70	28.4	--	--	--
Little Meadows +	20A24a	5275	4/30	172	69.7	--	--	--
Lyman Lake +	20A23A	5900	4/30	197	79.8	--	--	--
Park Creek Flat +	20A13a	2220	4/30	70	28.4	--	--	--
Park Creek Ridge +	20A12A	4600	4/30	113	45.8	--	--	--
Petersons +	20A16a	3730	4/30	72	29.2	--	--	--
Rainy Pass	20A9	4780	4/26	127	52.8	32.3	42.2	45.1*
Safety Harbor	20A30A	6300	4/27	98	32.4	23.4	24.7	--

Not located directly on this drainage

* Adjusted 1948-62 average

** Average for years of record

+ Snow water equivalent estimated from aerial stadia marker

++ Aerial marker buried. Snow depth and water equivalent in excess of these figures.

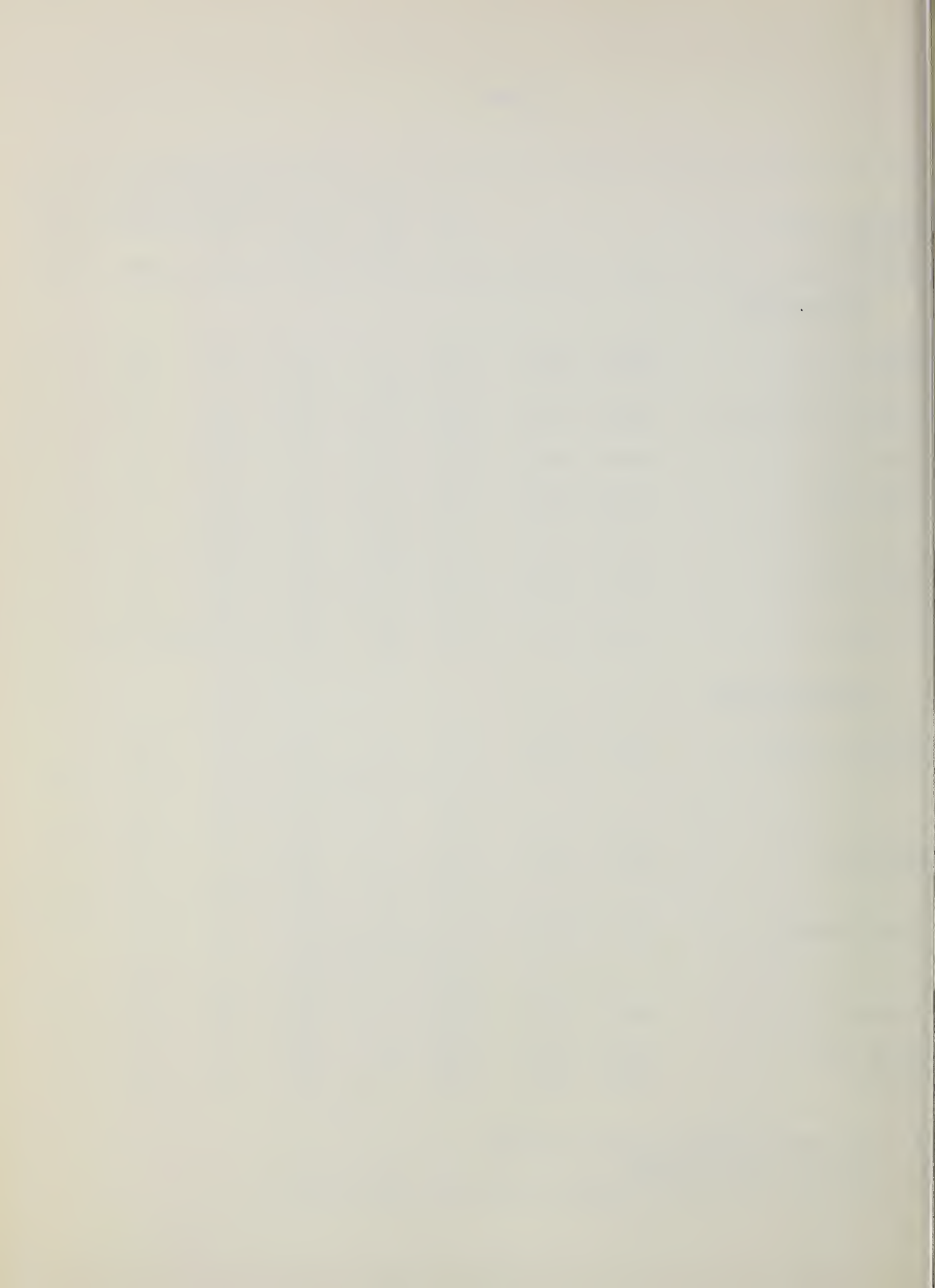
APPENDIX 4

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	SNOW COVER MEASUREMENT					
			1967		: P a s t R e c o r d			
			Date of Survey	Snow Depth (In.)	Water Content (In.)	: Water Content (In.)	1948-62	
						: 1966	1965	Avg.
<u>ENTIAT RIVER</u>								
Brief	20B19	1600	4/25	0	0.0	0.0	0.0	--
Entiat Meadows +	20A33a	4800	4/11	117	44.5	--	--	--
			5/1	118	44.8	--	--	--
Entiat River Trail +	20A34a	3150	4/11	58	22.0	9.8	--	--
			5/1	33	12.5	0.0	--	--
Pope Ridge	20B20	4300	4/15	37	14.1	8.8	--	--
			4/28	43	14.4	1.7	--	--
Pugh Ridge +	20A32a	6400	4/11	93	35.3	28.6	--	--
			5/1	119	45.2	24.0	--	--
Snow Brushy +	20A35a	3850	4/11	109	41.4	25.8	--	--
			5/1	91	34.5	14.4	--	--
Tommy Creek +	20B21a	5300	4/11	70	26.6	11.4	--	--
			5/1	84	31.9	9.6	--	--
Fox Camp +	20A36a	6510	4/11	155	58.9	New Aerial Marker		
			5/1	170	64.6	--	--	--
<u>WENATCHEE RIVER</u>								
Berne-Mill Creek	21B23	2925	4/28	66	25.8	13.7	18.2	--
Blewett Pass No. 2	20B2	4270	4/11	26	9.8	--	--	--
			4/15	Not Measured		10.1	15.1	15.8*
			4/21	34	10.8	8.7	--	--
			5/3	29	11.7	2.7	4.3	10.4
Chiwaukum G. S.	20B16	1810	4/28	0	0.0	0.0	0.0	0.0
#Fish Lake	21B4	3371	4/11	78	32.6	--	--	--
			4/20	76	30.4	22.0	--	--
			5/2	69	29.6	12.6	17.6	26.2*
Lake Wenatchee	20B5	1970	4/10	12	3.7	--	--	--
			4/15	Not Measured		3.0	--	--
			4/20	0	0.0	--	--	--
			4/28	0	0.0	0.0	0.0	--
Leavenworth R. S.	20B17	1127	4/13	0	0.0	--	--	--
			4/28	0	0.0	0.0	0.0	--
#Lyman Lake +	20A23A	5900	4/30	197	79.8	--	--	--
Merritt	20B18	2140	4/28	0	0.0	0.0	0.0	--

Not located directly on this drainage

* Adjusted 1948-62 average

+ Snow water equivalent estimated from aerial stadia marker



APPENDIX 5

			SNOW COVER MEASUREMENT					
			1967	: P a s t R e c o r d				
DRAINAGE BASIN and SNOW COURSE	No.	Elev.	Date of Survey	Snow Depth (In.)	Water Content: (In.)	Water Content (In.) :1966	1965	1948-62 Avg.
<u>WENATCHEE RIVER (Cont.)</u>								
Stevens Pass	21B1	4070	4/15	Not Measured		49.3	59.2	57.0*
			4/28	146	62.5	43.4	54.7	54.8*
<u>SQUILCHUCK CREEK</u>								
Beehive Springs	20B3	4400	4/28	15	3.8	0.0	0.0	--
Scout-A-Vista	20B4	3400	4/28	6	2.3	0.0	0.0	--
<u>STEMILT CREEK</u>								
Jump-Off	20B8	4450	4/27	20	6.6	0.0	0.0	--
Stemilt Slide	20B6	5000	4/27	38	11.3	5.8	2.8	--
Upper Wheeler	20B7	4400	4/27	14	3.7	0.0	0.0	--
<u>YAKIMA RIVER</u>								
Ahtanum R. S.	21C11	3100	5/1	0	0.0	0.0	0.0	0.0*
Big Boulder Creek	21B9	3200	4/11	27	10.1	--	--	--
			4/20	26	9.9	6.1	--	--
			5/2	18	5.6	0.0	0.0	5.8*
#Blewett Pass No. 2	20B2	4270	4/11	26	9.8	--	--	--
			4/15	Not Measured		10.1	15.1	15.8*
			4/21	34	10.8	8.7	--	--
			5/3	29	11.7	2.7	4.3	10.4
Bumping Lake	21C8	3450	4/13	33	12.2	16.5	11.1	15.2*
			5/1	31	11.6	10.9	4.4	10.5
Cooper Pass	21B36	3300	4/10	70	29.2	--	--	--
			4/21	72	30.0	24.6	--	--
			5/1	63	26.4	17.0	--	--
Fish Lake	21B4	3371	4/11	78	32.6	--	--	--
			4/20	76	30.4	22.0	--	--
			5/2	69	29.6	12.6	17.6	26.2*
Hyak	21B34	2600	4/10	33	18.8	--	--	--
			4/21	33	14.0	10.8	--	--
			5/1	20	8.4	4.8	--	--
Kachess Dam	21B38	2200	4/10	0	0.0	--	--	--
			4/21	0	0.0	0.0	--	--
			5/1	0	0.0	0.0	--	--

Not located directly on this drainage

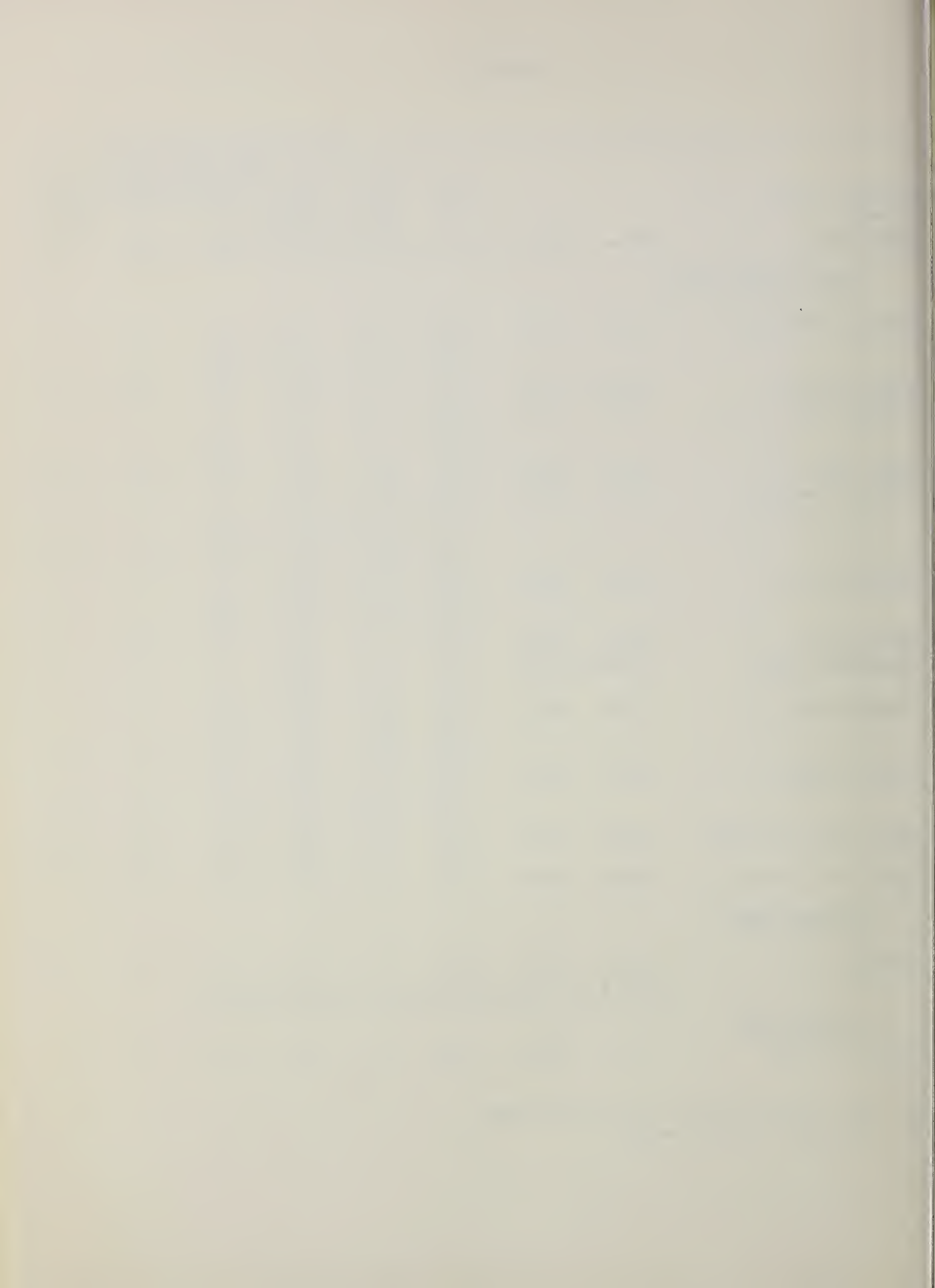
* Adjusted 1948-62 average

APPENDIX 6

				SNOW COVER MEASUREMENT				
				1967	: P a s t R e c o r d			
DRAINAGE BASIN and SNOW COURSE	No.	Elev.	Date of Survey	Snow Depth (In.)	Water : Content: (In.)	Water Content (In.) :1966	1965	1948-62 Avg.
<u>YAKIMA RIVER (Cont.)</u>								
Kachess Peninsula	21B37	2280	4/10	26	9.2	--	--	--
			4/21	12	4.0	12.2	--	--
			5/1	11	4.4	5.6	--	--
Lake Cle Elum	21B14M	2200	5/1	0	0.0	0.0	0.0	--
Morgan Creek	21B40	2320	4/10	0	0.0	--	--	--
			4/21	0	0.0	0.0	--	--
			5/1	0	0.0	0.0	--	--
Morse Lake	21C17	5400	5/2	167	83.2	44.8	53.2	70.8*
#Olallie Meadows	21B2	3625	4/10	115	52.0	--	--	--
			4/15	Not Measured		48.6	57.6	54.3*
			4/19	127	55.0	43.8	--	--
			4/28	129	56.7	44.3	49.1	48.9*
Salmon La Sac	21B39	2340	4/10	32	12.4	--	--	--
			4/20	28	10.0	8.6	--	--
			5/1	11	4.4	0.0	--	--
#Satus Pass	20D1	4030	4/28	0	0.0	6.1	0.0	--
Snoqualmie Pass	21B33SP	3020	4/5	79	36.4	--	--	--
			5/2	54	28.0	--	--	--
Stampede Pass	21B10	3000	4/11	121	53.8	42.6	--	--
			4/21	128	56.7	39.3	--	--
			4/28	136	57.1	39.3	47.1	47.9
Tunnel Avenue	21B8	2450	4/10	41	15.6	19.7	--	--
			4/20	39	14.9	16.3	23.8	25.7
			4/28	38	13.2	12.1	15.1	19.5
White Pass (E. Side)	21C28	4500	4/14	72	26.7	22.7	27.6	31.1*
			5/2	73	28.4	19.6	22.4	31.2*
White Pass (Leech L.)	21C27	4500	5/2	87	37.8	21.0	22.8	--
<u>AHTANUM CREEK</u>								
Ahtanum R. S.	21C11	3100	5/1	0	0.0	0.0	0.0	0.0*
<u>LOWER C O L U M B I A D R A I N A G E</u>								
<u>ASOTIN CREEK</u>								
Spruce Springs	17C4	5700	4/26	60	24.0	21.6	--	--

Not located directly on this drainage

* Adjusted 1948-62 average



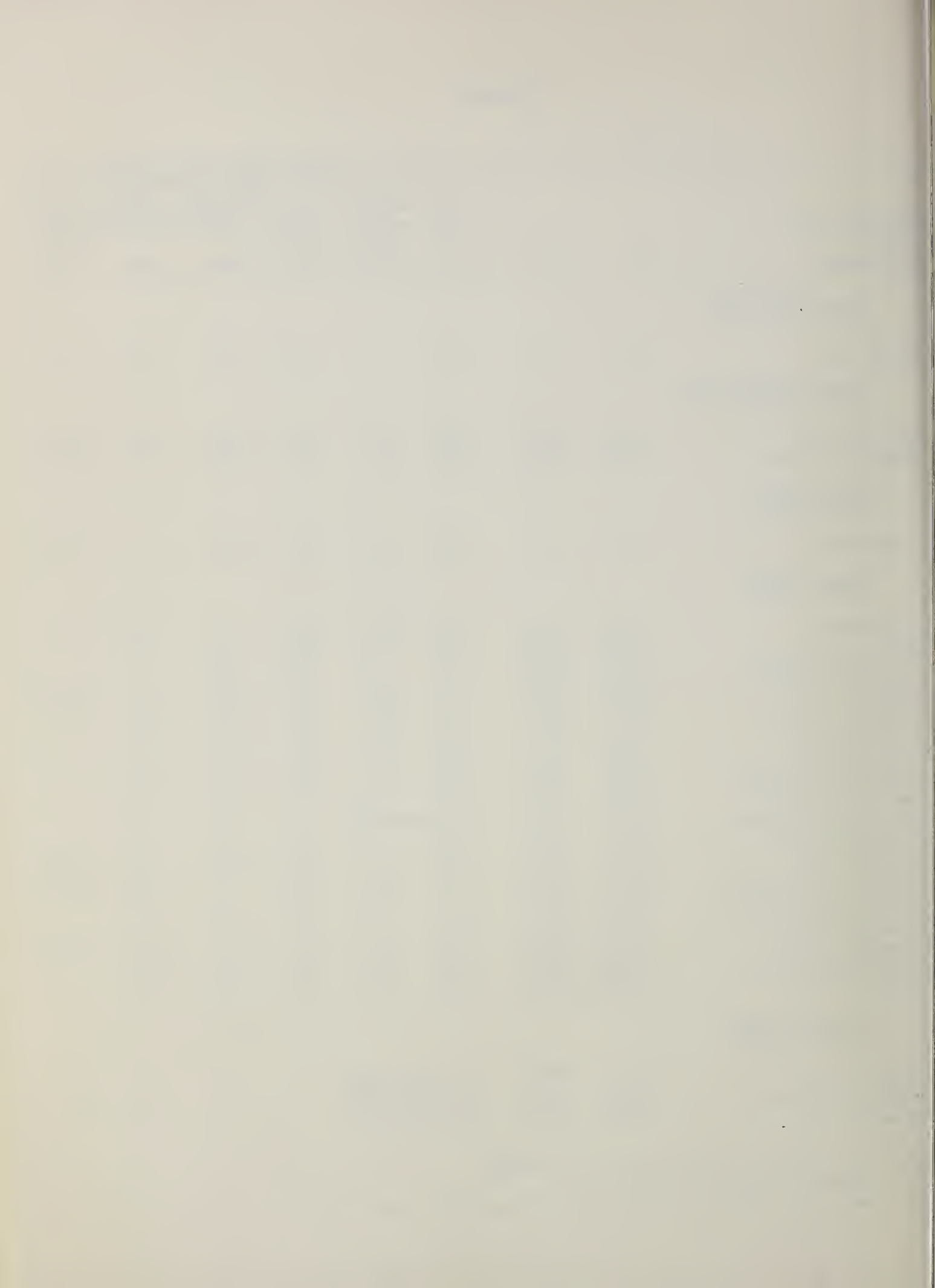
APPENDIX 7

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	SNOW COVER MEASUREMENT					
			Date of Survey	1967 Snow Depth (In.)	Water Content: (In.)	: P a s t R e c o r d		
						Water Content (In.)	1948-62	
						:1966	1965	Avg.
<u>KLICKITAT RIVER</u>								
Satus Pass	20D1	4030	4/28	0	0.0	6.1	0.0	--
<u>WHITE SALMON RIVER</u>								
Cultus Creek	21C12	4000	4/26	128	59.3	50.8	38.4	52.1*
#Surprise Lakes	21C13A	4250	4/26	136	61.9	53.5	41.8	54.0*
<u>WIND RIVER</u>								
Oldman Pass	21D19	3100	4/27	47	19.3	26.7	9.4	8.8*
<u>LEWIS RIVER</u>								
Blue Lake +	21C22a	4800	5/4	235	106.0	--	70.7	--
Bob's Trail	21C21	2200	4/25	34	15.6	11.0	2.1	--
Calamity Ridge +	22D1a	2500	5/4	0	0.0	0.0	0.0	--
Council Pass +	21C18a	4200	5/4	106	48.2	38.9	25.0	35.7*
#Cultus Creek	21C12	4000	4/26	128	59.3	50.8	38.4	52.1*
Divide Meadow +	21C29a	5600	5/4	162	73.9	56.5	58.0	--
Grand Meadow	21C25	3500	4/25	71	30.1	21.2	19.7	--
Lone Pine Shelter	21C26	3800	4/28	131	56.8	57.2	40.6	--
Marble Mountain +	22C5a	3200	5/4	92	39.5	49.0	7.8	--
#Mosquito Meadows	21C19	4100	Not Measured			--	--	--
New Muddy River	22C6	1400	4/28	0	0.0	0.0	0.0	--
Old Man Pass	21D19	3100	4/27	47	19.3	26.7	9.4	8.8*
Plains of Abraham +	22C1a	4400	5/4	202	92.0	--	53.6	83.4*
Smith Creek Road	22C4	2100	5/2	10	5.7	0.0	0.0	--
Spencer Meadow +	21C20a	3400	5/4	63	25.3	31.0	0.0	--
Surprise Lakes	21C13A	4250	4/26	136	61.9	53.5	41.8	54.0*
Table Mountain +	21C24a	4200	5/4	125	56.9	49.5	32.8	--
Timbered Peak +	21D18a	3000	5/4	52	21.4	6.0	0.0	--
<u>COWLITZ RIVER</u>								
Cayuse Pass	21C6	5300	Not Measured			--	--	--
Mosquito Meadows	21C19	4100	Not Measured			--	--	--
Ohanapecosh	21C32	2200	Not Measured			3.1	2.2	--

Not located directly on this drainage

* Adjusted 1948-62 average

+ Snow water equivalent estimated from aerial stadia merker



APPENDIX 8

				SNOW COVER MEASUREMENT					
				1967	: P a s t R e c o r d				
				Date	Snow	Water	: Water Content (In.)		
				of	Depth	Content:	1948-62		
				Survey	(In.)	(In.)	:1966	1965	Avg.
DRAINAGE BASIN									
and									
SNOW COURSE									
No. Elev.									
COWLITZ RIVER (Cont.)									
#White Pass (E. Side)	21C28	4500	4/14	72	26.7	22.7	27.6	31.1*	
			5/2	73	28.4	19.6	22.4	31.2*	
#White Pass (Leech L.)	21C27	4500	5/2	87	37.8	21.0	22.8	--	
P U G E T S O U N D D R A I N A G E									
WHITE RIVER									
#Morse Lake	21C17	5400	5/2	167	83.2	44.8	53.2	70.8*	
GREEN RIVER									
Stampede Pass	21B10	3000	4/11	121	53.8	42.6	--	--	
			4/21	128	56.7	39.3	--	--	
			4/28	136	57.1	39.3	47.1	47.9	
SNOQUALMIE RIVER									
Bandera Air Strip	21B32	1635	4/10	0	0.0	--	--	--	
			4/19	0	0.0	0.0	--	--	
			4/28	0	0.0	--	--	--	
Olallie Meadows	21B2	3625	4/10	115	52.0	--	--	--	
			4/15	Not Measured		48.6	57.6	54.3*	
			4/19	127	55.0	43.8	--	--	
			4/28	129	56.7	44.3	49.1	48.9*	
SKYKOMISH RIVER									
#Stevens Pass	21B1	4070	4/15	Not Measured		49.3	59.2	57.0*	
			4/28	146	62.5	43.4	54.7	54.8*	
SKAGIT RIVER									
Beaver Creek Trail	21A4	2200	4/26	15	6.2	4.4	4.8	6.6*	
Beaver Pass	21A1	3680	4/25	93	40.6	35.6	29.3	37.1*	
#Cloudy Pass +	20A22A	6500	4/30	170++	68.8++	--	--	--	

Not located directly on this drainage

* Adjusted 1948-62 average

+ Snow water equivalent estimated from aerial stadia marker

++ Aerial marker buried. Snow depth and water equivalent in excess of these figures.



APPENDIX 9

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENT				
				1967	: P a s t R e c o r d			
				Snow Depth (In.)	Water Content: (In.)	: Water Content (In.) 1948-62		
						:1966	1965	Avg.
<u>SKAGIT RIVER (Cont.)</u>								
Devils Park	20A4	5900	4/26	139	57.4	39.4	43.8	49.4*
Freezeout Cr. Trail	20A1	3500	4/24	34	12.8	4.8	9.0	9.4*
Freezeout Meadows	20A2	5000	4/24	87	35.9	29.2	33.2	33.7*
#Harts Pass	20A5A	6500	4/24	139	56.5	39.5	47.5	51.6
Lake Hozomeen	21A2	2600	4/24	16	5.9	7.6	6.0	6.3*
#Lyman Lake + Meadow Cabins	20A23A	5900	4/30	197	79.8	--	--	--
20A8	1900	4/26	0	0.0	0.0	0.0	0.0	2.8*
#Rainy Pass	20A9	4780	4/26	127	52.8	32.3	42.2	45.1*
Thunder Basin	20A7	4200	4/26	78	28.4	20.7	25.5	29.3*
<u>BAKER RIVER</u>								
Dock Butte	21A11A	3800	4/14	221	96.9	79.3	67.8	--
			4/26	207	94.6	79.7	65.6	--
Easy Pass	21A7A	5200	4/14	248	109.5	86.2	85.1	--
			4/26	242	110.2	85.5	--	--
Jasper Pass	21A6A	5400	4/14	280	122.4	97.7	84.9	--
			4/26	267	122.4	98.1	84.0	--
Komo Kulshan	21A17	800	4/15	0	0.0	2.3	--	--
			4/26	0	0.0	0.0	0.0	--
Marten Lake	21A9A	3600	4/14	234	102.8	88.5	78.3	--
			4/26	223	100.2	86.2	73.6	--
#Panorama	21A5	4300	4/12	242	101.6	98.3	84.9	--
			4/28	236	107.1	81.2	83.6	--
Rocky Creek	21A12A	2100	4/14	95	41.8	40.5	28.6	--
			4/27	86	39.8	34.1	16.0	--
Schreibers Meadow	21A10A	3400	4/14	190	84.6	74.8	61.8	--
			4/27	180	83.8	74.2	57.8	--
S.F. Thunder Creek	21A14A	2200	4/14	18	4.5	0.4	0.0	--
			4/27	0	0.0	0.0	0.0	--
Sulphur Creek	21A13	1600	4/14	32	13.4	16.3	12.6	--
			4/27	20	8.7	10.0	0.0	--
Three Mile Creek	21A15	1600	4/14	0	0.0	0.0	--	--
			4/27	0	0.0	0.0	0.0	--
Watson Lakes	21A8A	4500	4/14	214	89.8	78.1	67.0	--
			4/26	205	90.7	77.9	64.8	--

Not located directly on this drainage

* Adjusted 1948-62 average



APPENDIX 10

DRAINAGE BASIN and SNOW COURSE			SNOW COVER MEASUREMENT						
			1967		:P a s t R e c o r d				
			Date	Snow	Water	: Water	Content	(In.)	1948-62
			of	Depth	Content:	(In.)	(In.)	:1966	
No.	Elev.	Survey	(In.)	(In.)	:1966	1965	Avg.		
<u>NOOKSACK RIVER</u>									
Panorama	21A5	4300	4/12	242	101.6	98.3	84.9	--	
			4/28	236	107.1	81.2	83.6	--	
<u>O L Y M P I C P E N I N S U L A</u>									
<u>DUNGENESS RIVER</u>									
Deer Park	23B4	5200	4/27	93	33.8	28.4	18.7	26.6*	
<u>MORSE CREEK</u>									
Deer Park G. S.	23B13	4850	4/27	62	22.8	16.9	10.6	--	
Morse Creek	23B12	5425	4/26	148	64.0	44.3	33.7	--	
<u>ELWHA RIVER</u>									
Hurricane	23B3	4500	4/26	94	38.4	32.8	20.5	31.5*	

* Adjusted 1948-62 average



Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Conservation
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
Weather Bureau
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Walla Walla
City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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